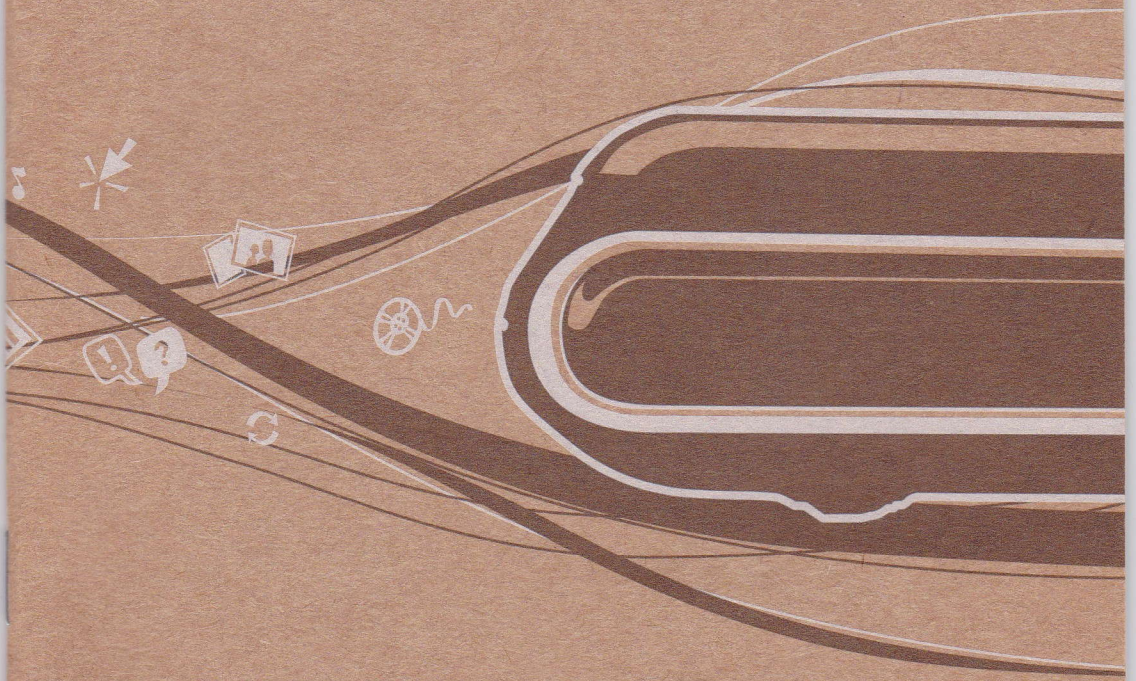
# NOTEBOOK ESSENTIALS



What you need to know to work, play, and communicate

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# Contents


## Chapter 1: What's next?

Creating recovery discs . . . . . 1
Connecting to the Internet . . . . . 1
Updating your antivirus software . . . . . 1
Getting to know the computer . . . . . 1

## Chapter 2: Finding information

Locating the electronic manuals . . . . . 3
Finding more information . . . . . 4

## Chapter 3: Keeping the computer safe

Protecting the computer from viruses . . . . . 5
Protecting your system files . . . . . 5
Protecting your privacy . . . . . 5
Protecting the computer from power surges . . . . . 6
Turning off the computer . . . . . 6
Using the computer safely . . . . . 6

## Chapter 4: Networking

Choosing the type of Internet access . . . . . 9
Choosing an ISP . . . . . 9
Using Internet Services & Offers . . . . . 10
Using ISP-provided icons . . . . . 10
Using the Windows Connect to the Internet wizard . . . . . 10
Connecting to an existing wireless network . . . . . 10
Setting up a wireless network . . . . . 11
Step 1: Purchase high-speed Internet service . . . . . 11
Step 2: Purchase and install a wireless router . . . . . 12
Step 3: Configure the computer to connect to the wireless network . . . . . 12
Connecting to a wired network . . . . . 13

## Chapter 5: Setting up the TV tuner (select models only)

Before you begin . . . . . 16
Identifying setup components . . . . . 17
Step 1: Set up your connection . . . . . 17
Connection 1: Receiving signals using an antenna . . . . . 18
Connection 2: Receiving regular TV or cable TV signals without a receiver . . . . . 19
Connection 3: Receiving satellite TV or cable TV signals with a receiver . . . . . 20
Step 2: Set up your software . . . . . 21
Advanced connections . . . . . 21
Adding a TV to your system . . . . . 21

Configuring the audio using HDMI . . . . . 22
Configuring the TV display . . . . . 23

## Chapter 6: Using software

Identifying installed software . . . . . 25
Using MediaSmart software . . . . . 25
Installing software from an optical disc . . . . . 26
Creating (burning) a CD or DVD . . . . . 26
Updating the software installed on the computer . . . . . 27

## Chapter 7: Backup and recovery

Creating recovery discs . . . . . 29
Backing up your information . . . . . 30
Using Windows Backup and Restore . . . . . 31
Using system restore points . . . . . 31
Performing a recovery . . . . . 32
Recovering using the recovery discs . . . . . 33
Recovering using the partition on the hard drive (select models only) . . . . . 33

## Chapter 8: Routine care

Cleaning the display . . . . . 35
Cleaning the TouchPad and keyboard . . . . . 35
Traveling and shipping . . . . . 35

## Appendix A: Troubleshooting

Troubleshooting resources . . . . . 37
Quick troubleshooting . . . . . 37
The computer is unable to start up . . . . . 37
The computer screen is blank . . . . . 37
Software is functioning abnormally . . . . . 38
The computer is on but is not responding . . . . . 38
The computer is unusually warm . . . . . 38
An external device is not working . . . . . 39
The wireless network connection is not working . . . . . 39

## Appendix B: Specifications

Operating environment . . . . . 41
Input power . . . . . 41
Expansion port 3 input/output signals (select models only) . . . . . 42

## Index

# Chapter 1: What's next?

After you set up and register the computer, it is important to take the next steps in this guide before you begin using the computer. These steps include setting up your wired and wireless networking features and the integrated TV tuner that is included with select models. You will also find practical information to help you protect and maintain the computer. First, read this chapter completely, because it explains what to do and where to find additional information. Then, read specific chapters for additional information.

For help in identifying specific components of the computer, refer to the *Notebook Tour* user guide, which is located in Help and Support. Click **Start**, click **Help and Support**, and then click **User Guides**.

## Creating recovery discs

After setting up the computer, one of the first and most important steps to take is to create a set of recovery discs of the full factory image. The recovery discs are essential in case of system instability or failure, when they are used to recover the operating system and software to factory settings. For instructions, refer to Chapter 7, "Backup and recovery."

## Connecting to the Internet

After creating the recovery discs, set up your wired or wireless network so that you can send and receive e-mail and connect to the Internet. For more information, refer to Chapter 4, "Networking."

## Updating your antivirus software

After you have connected to the Internet, be sure to update your antivirus software. The software is preinstalled on the computer and includes a limited subscription for free updates. Antivirus software helps protect your computer from damage caused by viruses. For more information, refer to Chapter 3, "Keeping the computer safe."

## Getting to know the computer

When you have completed the preceding steps, familiarize yourself with the features of the computer and set up any additional components, such as the integrated TV tuner or optional external audio devices.

Be sure to review the user guides located in Help and Support on the computer. They provide detailed information about using the computer. For instructions on accessing the user guides, refer to Chapter 2, "Finding information."

The following list highlights the entertainment features of the computer and explains where to get additional information for each feature.

- **Multimedia software**—The computer comes with preinstalled multimedia software, including HP MediaSmart, which turns the computer into a mobile entertainment center. For details, refer to Chapter 6, "Using software."
- **TV tuner**—Select computer models include a built-in TV tuner so you can watch, record, and pause live TV. For instructions on setting up the TV tuner, refer to Chapter 5, "Setting up the TV tuner (select models only)."
- **Audio**—The computer includes integrated speakers. For more information on using the integrated speakers and setting up optional external audio devices, refer to the *Multimedia* user guide in Help and Support.
- **Video**—You can connect an optional display device or an HDMI (High Definition Multimedia Interface) device to the computer. You can also use the optical drive to watch a high-definition movie (select models only). For more information about the video features, refer to the *Multimedia* user guide in Help and Support.

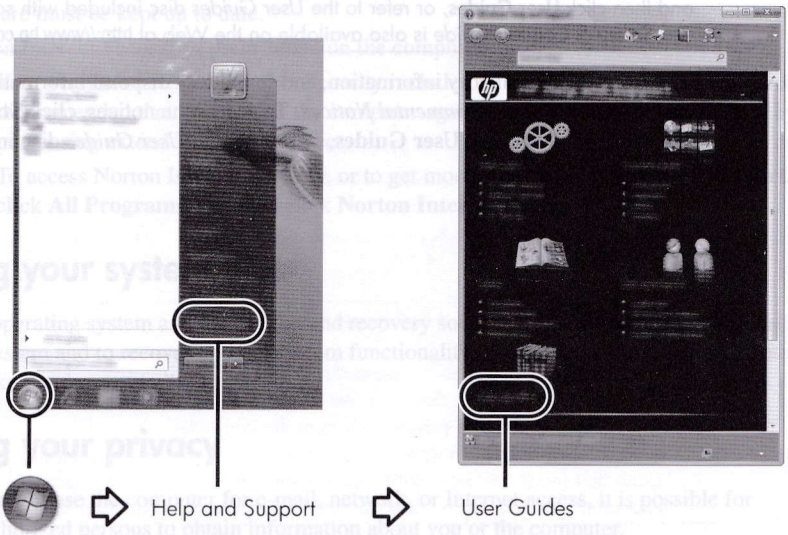
On select models, when watching movies, you must use MediaSmart software.

- **Remote controls (select models only)**—The computer may include two remote controls. The HP Media Remote Control with numeric keypad enables you to manage multimedia tasks remotely, and the HP Mobile Remote Control can be stored in the ExpressCard slot for easy mobility. For more information, refer to the *HP Media Remote Control* user guide and the *HP Mobile Remote Control* user guide, both located in Help and Support.
- **Webcam**—Adjustable camera with low-light image technology and built-in microphones that make the webcam a perfect companion to your instant messaging program. For more information on the webcam, refer to the *Multimedia* user guide in Help and Support.

# Chapter 2: Finding information

## Locating the electronic manuals

For detailed information about the features and components of the computer, such as power management, drives, memory, security, and other features, click **Start**, click **Help and Support**, and then click **User Guides**. You do not need to connect to the Internet to access the user guides in Help and Support.




User guides for select models may also be provided on a *User Guides* disc.

# Finding more information

In addition to the user guides, Help and Support also provides information about the operating system, drivers, troubleshooting tools, and accessing technical support. To access Help and Support, click **Start**, and then click **Help and Support**. For country- or region-specific support, go to http://www.hp.com/support, select your country or region, and follow the on-screen instructions.

⚠ **WARNING:** To reduce the risk of serious injury, read the *Safety & Comfort Guide*. It describes proper workstation setup and proper posture, health, and work habits for computer users. The *Safety & Comfort Guide* also provides important electrical and mechanical safety information. To access this document, click **Start**, click **Help and Support,** and then click **User Guides**, or refer to the *User Guides* disc included with some models. The *Safety & Comfort Guide* is also available on the Web at http://www.hp.com/ergo.

For more safety and regulatory information, and for battery disposal information, refer to the *Regulatory, Safety and Environmental Notices.* To access the notices, click **Start**, click **Help and Support**, and then click **User Guides**, or refer to the *User Guides* disc included with some models.

# Chapter 3: Keeping the computer safe

## Protecting the computer from viruses

When you use the computer for e-mail or Internet access, you expose it to computer viruses that can disable the operating system, programs, or utilities or cause them to function abnormally.

Antivirus software can detect most viruses, destroy them, and in most cases, repair damage they have caused. To provide ongoing protection against newly discovered viruses, antivirus software must be kept up to date.

Norton Internet Security is preinstalled on the computer:

- Your version of Norton Internet Security includes 60 days of free updates. It is strongly recommended that you protect the computer against new viruses beyond 60 days by purchasing extended update service.
- To access Norton Internet Security, or to get more information about it, click **Start**, click **All Programs**, and then click **Norton Internet Security**.

## Protecting your system files

The operating system and the backup and recovery software provide several ways to back up the system and to recover optimal system functionality. For information, refer to Chapter 7, "Backup and recovery."

## Protecting your privacy

When you use the computer for e-mail, network, or Internet access, it is possible for unauthorized persons to obtain information about you or the computer.

To optimize the privacy protection features of the computer, follow these guidelines:

- Keep the operating system and software updated. Many software updates contain security enhancements.
- Use a firewall. Firewall software monitors incoming traffic on the computer to block messages that do not meet specific security criteria. Some firewalls also monitor outgoing traffic.

## Protecting the computer from power surges

To protect the computer from the power surges that may be caused by an uncertain power supply or an electrical storm, observe these practices:

- Plug the computer power cord into an optional, high-quality surge protector. Surge protectors are available from most computer or electronics retailers.
- During an electrical storm, either run the computer on battery power or shut down the computer and unplug the power cord.
- If applicable to your location, provide surge protection on the modem cable that connects the modem to a telephone line. Telephone line surge protectors are commonly available from computer or electronics retailers in many regions.

## Turning off the computer

To turn off the computer:

1. Save your work and close all programs.
2. Click **Start**, and then click **Shut down**.

## Using the computer safely

⚠ **WARNING:** To reduce the risk of electric shock or damage to your equipment, observe these practices:

- Plug the power cord into an AC outlet that is easily accessible at all times.
- Disconnect power from the computer by unplugging the power cord from the AC outlet (not by unplugging the power cord from the computer).
- If provided with a 3-pin attachment plug on your power cord, plug the cord into a grounded (earthed) 3-pin outlet. Do not disable the power cord grounding pin, for example, by attaching a 2-pin adapter. The grounding pin is an important safety feature.

⚠ **WARNING:** To reduce the risk of serious injury, read the *Safety & Comfort Guide*. It describes proper workstation setup and proper posture, health, and work habits for computer users. The *Safety & Comfort Guide* also provides important electrical and mechanical safety information. To access this document, click **Start**, click **Help and Support**, and then click **User Guides**, or refer to the *User Guides* disc included with some models. The *Safety & Comfort Guide* is also available on the Web at http://www.hp.com/ergo.

⚠ **WARNING:** To reduce the possibility of heat-related injuries or of overheating the computer, do not place the computer directly on your lap or obstruct the computer air vents. Use the computer only on a hard, flat surface. Do not allow another hard surface, such as an adjoining optional printer, or a soft surface, such as pillows or rugs or clothing, to block airflow. Also, do not allow the AC adapter to contact the skin or a soft surface, such as pillows or rugs or clothing, during operation. The computer and the AC adapter comply with the user-accessible surface temperature limits defined by the International Standard for Safety of Information Technology Equipment (IEC 60950).

⚠ **WARNING:** To reduce potential safety issues, use only the AC adapter or battery provided with the computer, a replacement AC adapter or battery provided by HP, or a compatible AC adapter or battery purchased as an accessory from HP.

For more safety and regulatory information, and for battery disposal information, refer to the *Regulatory, Safety and Environmental Notices.* To access the notices, click **Start**, click **Help and Support**, and then click **User Guides**, or refer to the *User Guides* disc included with some models.

# Chapter 4: Networking

Internet hardware and software features vary depending on computer model and your location.

## Choosing the type of Internet access

The computer supports 2 types of Internet access:

- **Wireless**—For mobile Internet access, you can use a wireless connection. To learn about adding the computer to an existing network or setting up a wireless network, refer to the "Connecting to an existing wireless network" section or the "Setting up a wireless network" section.
- **Wired**—You can access the Internet by dialing in to a service provider using a modem cable (purchased separately) connected to the RJ-11 (modem) jack (select models only), or you can connect to a broadband network using the RJ-45 (network) jack.

The networking features of the computer enables you to access high-speed broadband Internet service providers with the following types of connections:

- Cable modem
- Digital Subscriber Line (DSL)
- Satellite
- Other services

Broadband access may require additional hardware or software provided by your Internet service provider (ISP).

## Choosing an ISP

You must set up Internet service before you can connect to the Internet. The computer includes the following software features to help you set up a new Internet account or configure the computer to use an existing account:

- Internet Services & Offers (available in some locations)
- ISP-provided icons (available in some locations)
- Windows® Connect to the Internet wizard (available in all locations)

## Using Internet Services & Offers

If the Internet Services & Offers utility is supported in the country or region in which you purchased the computer, you can access the utility by using the following method:

» Click **Start**, click **All Programs**, click **Online Services**, and then click **Get Online**.

The Internet Services & Offers utility assists with these tasks:

- Signing up for a new Internet account
- Configuring the computer to use an existing account

## Using ISP-provided icons

If ISP-provided icons are supported in the country or region in which you purchased the computer, the icons may be displayed either individually on the Windows desktop or grouped in a desktop folder named Online Services.

» To set up a new Internet account or configure the computer to use an existing account, double-click an icon, and then follow the instructions on the screen.

## Using the Windows Connect to the Internet wizard

You can use the Windows Connect to the Internet wizard to connect to the Internet in any of these situations:

- If you already have an account with an ISP.
- If you have a disc from an ISP.
- If you do not have an Internet account and would like to select an ISP from the list provided within the wizard. (The list of ISP providers is not available in all regions.)
- If you have selected an unlisted ISP and the ISP has provided you with such information as a specific IP address and POP3 and SMTP settings.

To access the Windows Connect to the Internet wizard and instructions for using the wizard, click **Start**, click **Help and Support**, and then search for Connect to the Internet wizard.

If you are prompted within the wizard to choose between enabling or disabling Windows Firewall, choose to enable the firewall.

# Connecting to an existing wireless network

To connect the computer to an existing wireless network, follow these steps:

1. Click the network icon in the notification area, at the far right of the taskbar.
2. Select a network to connect to.
3. Click **Connect**.
4. If required, enter the security key.

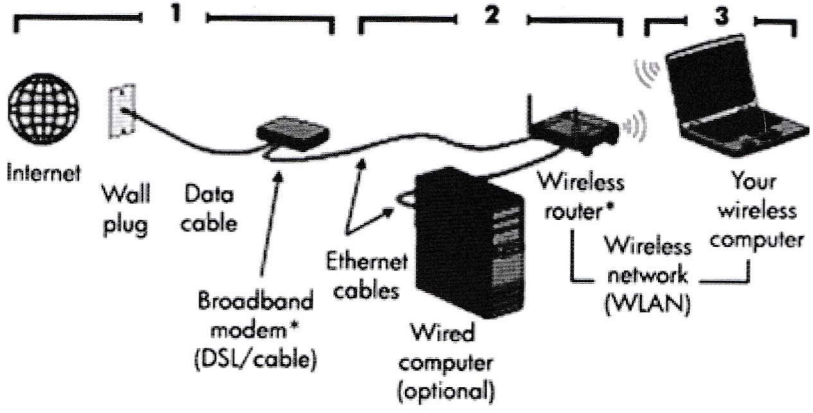
# Setting up a wireless network

This section describes the steps necessary to set up a typical home or small office wireless network, which is also called a wireless local area network (WLAN), using a wireless computer.

To set up a wireless network and to connect to the Internet, you need the following equipment:

- A broadband modem (either DSL or cable) and high-speed Internet service purchased from an Internet service provider (ISP)
- A wireless router (purchased separately)
- Your new wireless computer

The illustration shows an example of a completed wireless network installation that is connected to the Internet and to a wired computer. As this network grows, additional wireless and wired computers can be connected to the network to access the Internet.




*Installation procedure varies based on manufacturer.

## Step 1: Purchase high-speed Internet service

If you already have high-speed Internet service (DSL, cable, or satellite), begin with the "Step 2: Purchase and install a wireless router" section. If you do not have high-speed Internet service, follow these steps:

1. Contact a local ISP to purchase high-speed Internet service and a DSL or cable modem. The ISP will help set up the modem, install a network cable to connect your wireless computer to the modem, and test the Internet service.
2. Your ISP will give you a User ID and password to access the Internet. Record this information and store it in a safe place.

## Step 2: Purchase and install a wireless router

Read this section carefully before you install the wireless router using the router manufacturer's instructions and your wireless computer. If you need technical assistance during the router installation, contact the router manufacturer.

It is recommended that you temporarily connect your new wireless computer to the router by using the network cable provided with the router. This ensures that the computer can access the Internet.

1. Be sure that the wireless light on the computer is off. If the wireless light is on, turn it off by pressing the wireless button. For help locating the wireless button or light, refer to the *Notebook Tour* user guide in Help and Support.
2. During the router installation, the router manufacturer's software allows you to change the network name (SSID) and enable security to protect the privacy of your wireless network. Many routers are shipped with a default network name and with security disabled. If you change the default network name or enable security during the router setup, record the information and store it in a safe place. You will need this information when you configure the computer and any other existing computers to access the router.

   If you do not enable security, an unauthorized wireless user can access the data on the computer and use your Internet connection without your knowledge. For more information on securing your wireless network, refer to the *Wireless* user guide in Help and Support.

The Windows operating system also provides tools to help you set up your wireless network for the first time. To use the Windows tools to set up your network, click **Start**, click **Control Panel**, click **Network and Internet**, click **Network and Sharing Center**, click **Set up a new connection or network**, and then click **Set up a new network**. Follow the on-screen instructions.

## Step 3: Configure the computer to connect to the wireless network

1. If the wireless computer is off, turn it on.
2. If the wireless light is off, turn on the wireless function by pressing the wireless button. For help locating the wireless button or light, refer to the *Notebook Tour* user guide in Help and Support.
3. Connect the computer to the wireless network:
   a. Click the network icon in the notification area, at the far right of the taskbar.
   b. Select a network to connect to.
   c. Click **Connect**.
   d. If required, enter the security key.
   e. Test the wireless network by opening your Web browser and accessing a Web site.

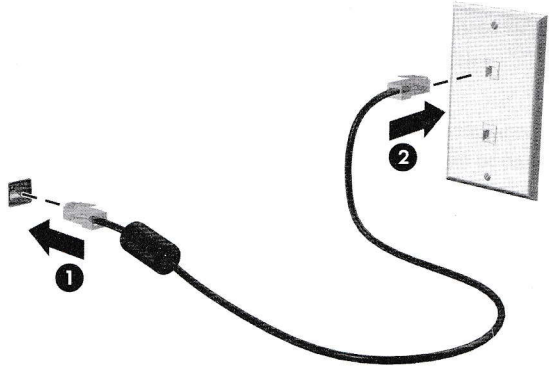
# Connecting to a wired network

Connecting to a wired network requires an RJ-11 modem cable (not included with the computer) or an RJ-45 network cable (not included with the computer). If the cable contains noise suppression circuitry ❶, which prevents interference from TV and radio reception, orient the circuitry end of the cable ❷ toward the computer.

To connect the cable:

⚠ **WARNING:** To reduce the risk of electric shock, fire, or damage to the equipment, do not plug a modem or telephone cable into the RJ-45 (network) jack.

1. Plug the cable into the jack ❶ on the computer.
2. Plug the other end of the cable into a wall jack ❷.



# Chapter 5: Setting up the TV tuner (select models only)

If the computer has a built-in TV tuner, you can watch, record, and pause live TV.

Depending on the type of TV tuner included, the computer may be able to receive one or more of the following signal types:

- Analog signals, such as the following:
  - National Television System Committee (NTSC)
  - Phase Alternating Line (PAL)
  - Sequential Color with Memory (SECAM)
- Digital signals, including high-definition TV (HDTV), such as the following:
  - Advanced Television Systems Committee (ATSC)
  - Quadrature Amplitude Modulation (QAM)
  - Digital Video Broadcasting-Terrestrial (DVB-T)
  - Digital Multimedia Broadcasting-Terrestrial (DMB-T)

---

All signals may not be available in all areas. Check signal availability in your area before beginning the installation.

---

To determine which type of TV tuner is on the computer, follow these steps:

1. Click **Start**, click **Computer**, and then click **System properties**.
2. In the left pane, click **Device Manager**.

   Windows includes the User Account Control feature to enhance the security of the computer. You may be prompted for your permission or password during this process. For more information on this feature, refer to Help and Support.
3. Click the arrow next to **Sound, video and game controllers** to show a list of all the controllers.

This chapter provides the most common steps for connecting your TV tuner using your existing cable/satellite setup or the TV antenna (included).

---

The TV tuner may receive terrestrial digital TV broadcasts. In certain areas, broadcasters may charge you a fee to receive digital broadcasts. Contact the broadcasters in your area to determine if you must register to receive digital broadcasts. Failure to register with the broadcaster before receiving digital broadcasts may be considered a criminal offense. Do not use the TV tuner for such purposes.

---

# Before you begin

This section assumes that you have already set up the computer according to the printed poster included with the computer.

Before you set up your TV tuner, consider the following points:

- Whether you plan to use a cable signal source or a digitally broadcast terrestrial signal
- How close you plan to locate the cable/satellite signal source to the computer
- Whether you want to include any existing home entertainment equipment in your setup
- Whether you want to view TV content on the computer or on the TV

For best results, the computer should have Internet access so that you can download and view Program Guide listings for your broadcast area or cable/satellite service provider.

Without Internet access, you can only view live TV and manually schedule recordings.

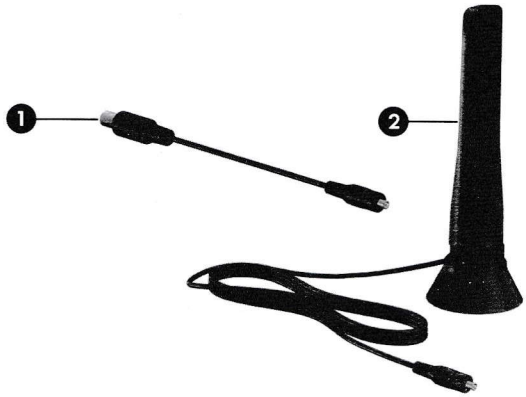
In addition to the TV tuner components provided with the computer, you may need the following items (purchased separately) for connections described in this guide:

- A working TV signal source (cable, satellite, or antenna). Your TV source may also require a cable receiver.
- A coaxial cable (for a wall connection).
- A television with an HDMI port (optional).
- An HDMI cable if connecting a television (optional).
- A 3.5-mm phono-to-stereo RCA audio cable for some advanced connections (optional).

After you set up the TV tuner, you can access it and the Program Guide by clicking the **Live TV** icon in MediaSmart.

# Identifying setup components

The following TV tuner components are included with the computer. Use the component required for your connection type.




| Component | | Description |
|---|---|---|
| ❶ | Cable adapter | Connects a coaxial cable to the computer. |
| ❷ | TV tuner antenna | Receives digital and analog broadcast signals. |
| ✎ | The antenna and cable adapter included may look different from the illustration. | |

# Step 1: Set up your connection

Three common connections are described in the following sections. The connection you use depends on what you want to do with your audio/video setup and on the type of TV input you use. Refer to the following table for more information.

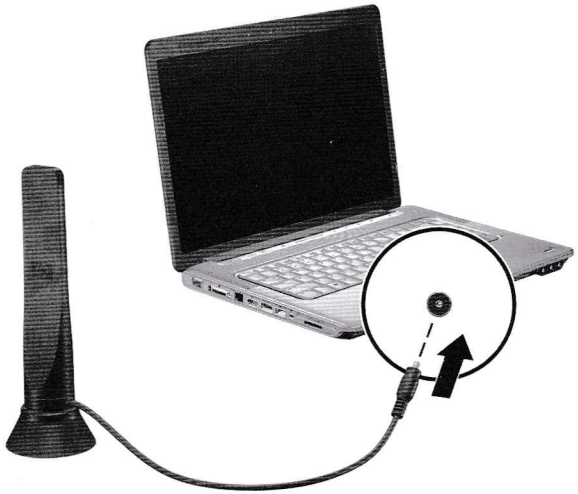
| Your TV source | Refer to section |
|---|---|
| Terrestrially broadcast TV signals | Connection 1: Receiving signals using an antenna |
| Regular or cable TV without a receiver | Connection 2: Receiving regular TV or cable TV signals without a receiver |
| Cable TV or satellite with a receiver | Connection 3: Receiving satellite TV or cable TV signals with a receiver |

## Connection 1: Receiving signals using an antenna

The antenna cable length is not shown to scale.

To connect the TV tuner antenna, follow these steps:

1. Connect the TV tuner antenna cable to the TV antenna/cable jack (the gold jack on the computer).



2. Complete the setup of your TV tuner. For information on how to install your software, refer to the "Step 2: Set up your software" section.

For additional connection steps, such as adding a television, refer to the "Advanced connections" section.

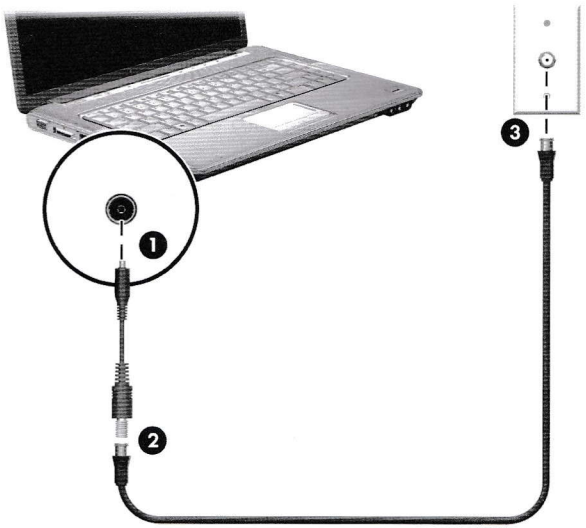
## Connection 2: Receiving regular TV or cable TV signals without a receiver

⚠ **WARNING:** In Norway and Sweden, to reduce potential safety issues, use a galvanic isolator when connecting to a cable distribution system.

✎ Cable lengths are not shown to scale.

To connect the computer to your regular TV or cable TV source without a receiver, follow these steps:

1. Connect the cable adapter to the TV antenna/cable jack ❶ (the gold jack on the computer).
2. Connect a cable (purchased separately) to the cable adapter ❷ on the computer, and then connect the cable to your regular TV or cable TV wall jack ❸.




3. Complete the setup of your TV tuner. For information on how to install your software, refer to the "Step 2: Set up your software" section.

✎ For additional connection steps, such as adding a television, refer to the "Advanced connections" section.

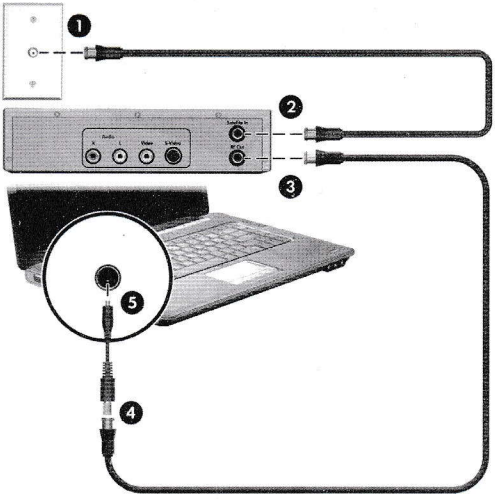
## Connection 3: Receiving satellite TV or cable TV signals with a receiver

Refer to the manufacturer's instructions for your cable or satellite receiver for the exact location and labeling of components on the receiver.

Cable lengths are not shown to scale.

To connect the computer to your existing satellite TV or cable TV source using a receiver, follow these steps:

1. Connect a coaxial cable (purchased separately) to your TV antenna/wall jack ❶, and then connect the cable to the Satellite Cable-In jack on your cable receiver ❷.
2. Connect a coaxial cable (purchased separately) to the TV-Out (or RF-Out) jack ❸ on your cable or satellite receiver, and then connect the cable to the cable adapter ❹.
3. Connect the cable adapter to the TV antenna/cable jack ❺ (the gold jack on the computer).




4. Complete the setup of your TV tuner. Refer to the next section.

For additional connection steps, such as adding a television, refer to the "Advanced connections" section.

# Step 2: Set up your software

When you set up the TV tuner for the first time, you must run the Setup Wizard. Later, if you change your TV tuner connections, add components, or switch between digital and analog connections (with a hybrid digital/analog TV tuner installed), you must run the Setup Wizard again to reconfigure the settings.

To run the Setup Wizard, follow these steps:

1. If the computer is off, turn it on.
2. Click the **MediaSmart** icon in the taskbar.
3. Click the **Live TV** icon on the MediaSmart SmartMenu.
4. Click **TV Channels**, and then click **Set Up My Tuner and EPG Now**.
5. Select the region in which you live from the list.
6. Select the source for your TV signal from the list.
7. Click **Auto-scan for Available Channels**, and then click **Next** when the scan is finished.
8. Select an Electronic Program Guide (EPG) option, and then click **Next**.
9. Click **Finish**.

The basic setup for the TV tuner is now complete. The MediaSmart TV window shows one of the channels discovered during the channel scan. To change the channel, use the controls that are displayed on the screen after you move the mouse, or use the remote control included with the computer.

# Advanced connections

## Adding a TV to your system

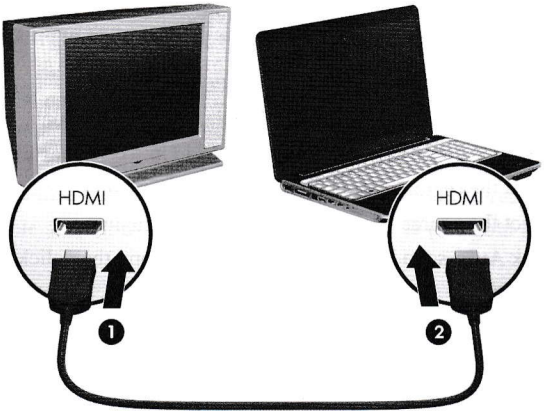
Adding a TV to your system allows you to watch and listen to TV programs from the computer on the TV. The integrated TV tuner allows you to watch high-definition TV or movies on the computer even if you do not have a TV.

Refer to the manufacturer's instructions for your TV for the exact location and labeling of jacks on the TV.

To add a TV to your connection, follow these steps:

The connection from the computer to the antenna is not shown in the following illustrations.

1. Connect an HDMI cable (purchased separately) to the HDMI port on your TV ❶, and then connect the cable to the HDMI port on the computer ❷.




2. Turn on your TV.
3. Be sure that your TV is set to view the correct video source (such as video 1 or video 2).

Press **fn+f4** on the computer keyboard one or more times to display the computer screen on the TV.

## Configuring the audio using HDMI

For best results, connect an audio or video device such as a high-definition TV to the HDMI port on the computer, and use MediaSmart as your media program.

The HDMI video output is handled by the graphics card, but the audio output is configured using Windows Control Panel.

### Setting HDMI as the default audio playback device

1. Click **Start**, click **Control Panel**, click **Hardware and Sound**, and then click **Sound**.
2. Click the **Playback** tab, click **HDMI Digital Output**, and then click **Set Default**.
3. Click **OK**.
4. Start MediaSmart.

   – or –

   If MediaSmart is already running, close it, and then restart it.

## Configuring the TV display

If you ran the Setup Wizard before you connected the TV, you may need to reconfigure your settings after you connect the TV.

If you have not yet run the Setup Wizard, you do not need to perform the following procedure. The Setup Wizard will guide you through all the configuration steps required for your connection.

To configure the TV display, follow these steps:

1. Click the **MediaSmart** icon in the taskbar.
2. Click the **Live TV** icon on the menu.
3. Click **Settings** on the menu bar at the top right of the screen.
4. Follow the on-screen instructions.

# Chapter 6: Using software

The computer includes preinstalled software. Some models also include additional software on an optical disc.

You can use the software on the computer to perform these and many more tasks:

- Playing digital media, including audio and video CDs, audio and video DVDs, Blu-ray discs (BD)
- Listening to Internet radio
- Creating (burning) data CDs
- Burning and editing audio CDs
- Burning and editing video DVDs or video CDs

This chapter explains how to perform some of these tasks, and it also explains how to identify and update the software on the computer.

## Identifying installed software

To see a list of the software that is preinstalled on the computer, click **Start**, and then click **All Programs**.

---

✎ Double-click the name of a program to open it.

---

✎ For details about using software included with the computer, refer to the software manufacturer's instructions, which may be provided with the software, on disc, or on the manufacturer's Web site.

---

✎ Windows® includes the User Account Control feature to improve the security of the computer. You may be prompted for your permission or password for tasks such as installing software, running utilities, or changing Windows settings. Refer to Help and Support for more information.

---

## Using MediaSmart software

MediaSmart turns the computer into a mobile entertainment center. With MediaSmart, you can enjoy music and movies. You can also manage and edit photo collections. MediaSmart also includes the following features:

- Internet TV—View a range of TV shows and channels, as well as the HP-TV channel streamed in full-screen mode to computers with an Internet connection.

- Photo and video upload support, for example:
  - Upload your MediaSmart photos to Internet photo storage sites, such as Snapfish.
  - Upload your home videos (for example, fun videos created with the integrated webcam) directly to YouTube.
- Pandora Internet radio (North America only)—Listen to music selected just for you, streamed from the Internet.

To start MediaSmart, click the **MediaSmart** icon in the taskbar.

The user guides on your computer may describe a method to start MediaSmart that is not available on your computer. Use the method described in this section to start MediaSmart.

## Installing software from an optical disc

To install any software from an optical disc, follow these steps:

1. Insert the disc into the optical drive.
2. When the installation wizard opens, follow the on-screen instructions.
3. Restart the computer if you are prompted to do so.

For information about using software included with the computer, refer to the software manufacturer's instructions. These instructions may be provided with the software, on disc, or on the manufacturer's Web site.

## Creating (burning) a CD or DVD

If your computer includes an optical drive that supports CD-RW, DVD-RW, or DVD+RW discs, you can burn data, video, and audio files, including MP3 and WAV music files, using software such as Cyberlink Power2Go.

You cannot create an audio DVD with Cyberlink Power2Go.

Observe the following guidelines when burning a CD or DVD:

- Before burning a disc, save and close any open files, and close all programs.
- A CD-RW or DVD-RW is generally best for burning data files or for testing audio or video recordings before you burn them to a CD or DVD that cannot be changed.
- A CD-R or DVD-R is usually best for burning audio files because after the information is copied, it cannot be changed.
- Because some home and car stereos do not play CD-RWs, use CD-R to burn music CDs.
- DVD players used in home systems usually do not support all DVD formats. Refer to the manufacturer's instructions that came with your DVD player for a list of supported formats.
- An MP3 file uses less space than other music file formats, and the process for creating an MP3 disc is the same as the process for creating a data file. MP3 files can be played only on MP3 players or on computers with MP3 software installed.

To burn a CD or DVD, follow these steps:

1. Download or copy the source files into a folder on your hard drive.
2. Insert a blank CD or DVD into the optical drive.
3. Click **Start**, click **All Programs**, and then click the name of the program you want to use.
4. Select the kind of CD or DVD you want to create—data, audio, or video.
5. Right-click **Start**, click **Open Windows Explorer**, and then navigate to the folder where the source files are stored.
6. Open the folder, and then drag the files to the drive that contains the blank optical disc.
7. Initiate the burning process as directed by the program you have selected.

**CAUTION:** To prevent loss of information or damage to a disc, observe the following guidelines:

- Before writing to a disc, connect the computer to a reliable external power source. Do not write to a disc while the computer is running on battery power.
- Before writing to a disc, close all open programs except the disc software you are using. Do not copy directly from a source disc to a destination disc or from a network drive to a destination disc. Instead, copy from a source disc or network drive to your hard drive, and then copy from your hard drive to the destination disc.
- Do not use the computer keyboard or move the computer while the computer is writing to a disc. The write process is sensitive to vibration.

**CAUTION:** Observe the copyright warning. It is a criminal offense, under applicable copyright laws, to make unauthorized copies of copyright-protected material, including computer programs, films, broadcasts, and sound recordings. Do not use this computer for such purposes.

## Updating the software installed on the computer

Most software, including the operating system, is updated frequently by the manufacturer or provider. Important updates to the software included with the computer may have been released since the computer left the factory.

Some updates may affect the way the computer responds to optional software or external devices. Many updates provide security enhancements.

Update the operating system and other software installed on the computer as soon as the computer is connected to the Internet. To access links for updating installed software, refer to Help and Support.

# Chapter 7: Backup and recovery

Tools provided by the operating system and by HP Recovery Manager software are designed to help you with the following tasks for safeguarding your information and restoring it in case of a system failure:

- Backing up your information
- Creating a set of recovery discs
- Creating system restore points
- Recovering a program or driver
- Performing a full system recovery

## Creating recovery discs

HP recommends that you create recovery discs to be sure that you can restore your system to its original factory state if you experience serious system failure or instability. Create these discs after setting up the computer for the first time.

Handle these discs carefully and keep them in a safe place. The software allows the creation of only one set of recovery discs.

Note the following guidelines before creating recovery discs:

- You need high-quality DVD-R, DVD+R, BD-R (writable Blu-ray), or CD-R discs. All these discs are purchased separately. DVDs have a much larger storage capacity than CDs. If you use CDs, up to 20 discs may be required, whereas only a few DVDs are required.

  ✎ Double-layer discs and read-write discs—such as CD-RW, DVD±RW, and BD-RE (rewritable Blu-ray) discs—are not compatible with the Recovery Manager software.

- The computer must be connected to AC power during this process.
- Only one set of recovery discs can be created per computer.
- Number each disc before inserting it into the computer optical drive.
- If necessary, you can exit the program before you have finished creating the recovery discs. The next time you open Recovery Manager, you will be prompted to continue the disc creation process.

To create a set of recovery discs:

1. Click **Start**, click **All Programs**, click **Recovery Manager**, and then click **Recovery Disc Creation**.
2. Follow the on-screen instructions.

# Backing up your information

As you add software and data files, you should back up your system on a regular basis to maintain a reasonably current backup. Back up your system at the following times:

- At a regularly scheduled times

  Set reminders to back up your information periodically.

- Before the computer is repaired or restored
- Before you add or modify hardware or software

Note the following when backing up:

- Create system restore points using the Windows® System Restore feature, and periodically copy them to disc.
- Store personal files in the Documents library and back up this folder periodically.
- Back up templates stored in their associated programs.
- Save the customized settings in a window, toolbar, or menu bar by taking a screen shot of the settings. The screen shot can be a time-saver if you have to reset your preferences.

  To copy the screen and paste the image into a word-processing document:

  a. Display the screen.
  b. Copy the screen:
     To copy only the active window, press **alt+fn+prt sc**.
     To copy the entire screen, press **fn+prt sc**.
  c. Open a word-processing document, click **Edit,** and then click **Paste**.
  d. Save the document:

- You can back up your information to an optional external hard drive, a network drive, or discs.
- When backing up to discs, use any of the following types of discs (purchased separately): CD-R, CD-RW, DVD+R, DVD-R, or DVD±RW. The discs you use will depend on the type of optical drive installed in your computer.

  DVDs store more information than CDs, so using them for backup reduces the number of recovery discs required.

- When backing up to discs, number each disc before inserting it into the optical drive of the computer.

## Using Windows Backup and Restore

To create a backup using Windows Backup and Restore, follow these steps:

Be sure that the computer is connected to AC power before you start the backup process.

The backup process may take over an hour, depending on file size and the speed of the computer.

1. Click **Start**, click **All Programs**, click **Maintenance**, and then click **Backup and Restore**.
2. Follow the on-screen instructions to set up and create a backup.

Windows® includes the User Account Control feature to improve the security of your computer. You may be prompted for your permission or password for tasks such as installing software, running utilities, or changing Windows settings. Refer to Help and Support for more information.

## Using system restore points

When you back up your system, you are creating a system restore point. A system restore point allows you to save and name a snapshot of your hard drive at a specific point in time. You can then recover back to that point if you want to reverse subsequent changes made to your system.

Recovering to an earlier restore point does not affect data files saved or e-mails created since the last restore point.

You also can create additional restore points to provide increased protection for your system files and settings.

### When to create restore points

- Before you add or extensively modify software or hardware.
- Periodically, whenever the system is performing optimally.

If you revert to a restore point and then change your mind, you can reverse the restoration.

### Create a system restore point

1. Click **Start**, click **Control Panel**, click **System and Security**, and then click **System**.
2. In the left pane, click **System Protection**.
3. Click the **System Protection** tab.
4. Under **Protection Settings**, select the disk for which you want to create a restore point.
5. Click **Create**.
6. Follow the on-screen instructions.

### Restore to a previous date and time

To revert to a restore point (created at a previous date and time), when the computer was functioning optimally, follow these steps:

1. Click **Start**, click **Control Panel**, click **System and Security**, and then click **System**.
2. In the left pane, click **System protection**.
3. Click the **System Protection** tab.
4. Click **System Restore**.
5. Follow the on-screen instructions.

## Performing a recovery

You can recover only files that you have previously backed up. HP recommends that you use Recovery Manager to create a set of recovery discs (entire drive backup) as soon as you set up your computer.

Recovery Manager software allows you to repair or restore the system if you experience system failure or instability. Recovery Manager works from recovery discs that you create or from a dedicated recovery partition (select models only) on the hard drive. However, computers that include a solid-state drive (SSD) may not have a recovery partition. If that is the case, recovery discs have been included with your computer. Use these discs to recover your operating system and software.

Windows has its own built-in repair features, such as System Restore. If you have not already tried these features, try them before using Recovery Manager. For more information on these built-in repair features, click **Start**, and then click **Help and Support**.

Recovery Manager recovers only the software that was preinstalled at the factory. Software not provided with this computer must be downloaded from the manufacturer's Web site or reinstalled from the disc provided by the manufacturer.

## Recovering using the recovery discs

To restore the system from the recovery discs:

1. Back up all personal files.
2. Insert the first recovery disc into the optical drive and restart the computer.
3. Follow the on-screen instructions.

## Recovering using the partition on the hard drive (select models only)

On some models, you can perform a recovery from the partition on the hard drive, accessed by pressing either the Start button or **f11**. This restores the computer to its factory condition.

Computers with an SSD may not have a recovery partition. If the computer does not have a recovery partition, you cannot recover using this procedure. Recovery discs have been included for computers that do not have a partition. Use these discs to recover your operating system and software.

To restore the system from the partition, follow these steps:

1. Access Recovery Manager in either of the following ways:
   - Click **Start**, click **All Programs**, click **Recovery Manager**, and then click **Recovery Manager**.

   – or –

   a. Turn on or restart the computer, and then press **esc** while the "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen.
   b. Press **f11** while the "Press <F11> for recovery" message is displayed on the screen.

   It may take several minutes for Recovery Manager to load.
2. In the Recovery Manager window, click **System Recovery**.
3. Follow the on-screen instructions.

# Chapter 8: Routine care

## Cleaning the display

**CAUTION:** To prevent permanent damage to the computer, never spray water, cleaning fluids, or chemicals on the display.

To remove smudges and lint, frequently clean the display with a soft, damp, lint-free cloth. If the screen requires additional cleaning, use premoistened antistatic wipes or an antistatic screen cleaner.

## Cleaning the TouchPad and keyboard

Dirt and grease on the TouchPad can cause the pointer to jump around on the screen. To avoid this, clean the TouchPad with a damp cloth, and wash your hands frequently when using the computer.

**WARNING:** To reduce the risk of electric shock or damage to internal components, do not use a vacuum cleaner attachment to clean the keyboard. A vacuum cleaner can deposit household debris on the keyboard surface.

Clean the keyboard regularly to prevent keys from sticking and to remove dust, lint, and particles that can become trapped beneath the keys. A can of compressed air with a straw extension can be used to blow air around and under the keys to loosen and remove debris.

## Traveling and shipping

For best results, follow these traveling and shipping tips:

- Prepare the computer for traveling or shipping:
  1. Back up your information.
  2. Remove all optical discs and all external media cards, such as digital cards and ExpressCards.

     To reduce the risk of damage to the computer, damage to a drive, or loss of information, remove the media from a drive before removing the drive from a drive bay, and before shipping, storing, or traveling with a drive.
  3. Turn off and then disconnect all external devices.
  4. Shut down the computer.

- Take along a backup of your information. Keep the backup separate from the computer.
- When traveling by air, carry the computer as hand luggage, and do not check it in with the rest of your bags.

  ⚠ Avoid exposing a drive to magnetic fields. Security devices with magnetic fields include airport walk-through devices and security wands. The airport security devices that check carry-on luggage, such as conveyor belts, use X-rays instead of magnetism and do not damage a drive.
- In-flight computer use is at the discretion of the airline. If you plan to use the computer during a flight, check with the airline in advance.
- If the computer will be unused and disconnected from external power for more than 2 weeks, remove the battery pack and store it separately.
- If you are shipping the computer or a drive, use suitable protective packaging and label the package "FRAGILE."
- If the computer has a wireless device or a cell phone device installed, such as an 802.11b/g device, a Global System for Mobile Communications (GSM) device, or a General Packet Radio Service (GPRS) device, the use of these devices may be restricted in some environments. Such restrictions may apply onboard aircraft, in hospitals, near explosives, and in hazardous locations. If you are uncertain of the policy that applies to the use of a particular device, ask for authorization to use it before you turn it on.
- If you are traveling internationally, follow these suggestions:
  - ❑ Check the computer-related customs regulations for each country on your itinerary.
  - ❑ Check the power cord and adapter requirements for each location in which you plan to use the computer. Voltage, frequency, and plug configurations vary.

  ⚠ To reduce the risk of electric shock, fire, or damage to the equipment, do not attempt to power the computer with a voltage converter kit sold for appliances.

# Appendix A: Troubleshooting

## Troubleshooting resources

If you experience computer problems, perform these troubleshooting steps in the order provided until the problem is resolved:

- Refer to "Quick troubleshooting," the next section in this chapter.
- Access Web site links and additional information about the computer through Help and Support. Click **Start**, and then click **Help and Support**.

  ✎ Although many checkup and repair tools require an Internet connection, other tools, like Help and Support, can help you fix a problem when the computer is offline.

## Quick troubleshooting

### The computer is unable to start up

If the computer does not turn on when you press the power button, the following suggestions may help you resolve the problem:

- If the computer is plugged into an AC outlet, plug another electrical device into the outlet to be sure that the outlet is providing adequate power.

---

✎ Use only the AC adapter provided with the computer or one approved by HP for this computer.

---

- If the computer is running on battery power or is plugged into an external power source other than an AC outlet, plug the computer into an AC outlet using the AC adapter. Be sure that the power cord and AC adapter connections are secure.

### The computer screen is blank

If the screen is blank, but the computer is on and the power light is lit, the computer may not be set to display the image on the computer screen. To transfer the image to the computer screen, press **fn+f4**.

## Software is functioning abnormally

If the software is unresponsive or responds abnormally, follow these suggestions:

- Restart the computer by clicking **Start**, clicking the arrow next to the Shut down button, and then clicking **Restart**.

  If you cannot restart the computer using this procedure, refer to the next section, "The computer is on but is not responding."
- Run a virus scan. For information about using the antivirus resources on the computer, refer to the "Protecting the computer from viruses" section in Chapter 3.

## The computer is on but is not responding

If the computer is on but is not responding to software or keyboard commands, try the following emergency shutdown procedures, in the sequence provided, until shutdown occurs:

**CAUTION:** Emergency shutdown procedures result in the loss of unsaved information.

- Press and hold the power button for at least 5 seconds.
- Disconnect the computer from external power and remove the battery.

## The computer is unusually warm

It is normal for the computer to feel warm to the touch while it is in use. But if the computer feels *unusually* warm, it may be overheating because a vent is blocked.

If you suspect that the computer is overheating, allow the computer to cool to room temperature. Then be sure to keep all vents free from obstructions while you are using the computer.

**WARNING:** To reduce the possibility of heat-related injuries or of the computer overheating, do not place the computer directly on your lap or obstruct the computer air vents Use the computer only on a hard, flat surface. Do not allow another hard surface, such as an adjoining optional printer, or a soft surface, such as pillows or rugs or clothing, to block airflow. Also, do not allow the AC adapter to contact the skin or a soft surface, such as pillows or rugs or clothing, during operation. The computer and the AC adapter comply with the user-accessible surface temperature limits defined by the International Standard for Safety of Information Technology Equipment (IEC 60950).

The fan in the computer starts up automatically to cool internal components and prevent overheating. It is normal for the internal fan to cycle on and off during operation.

## An external device is not working

Follow these suggestions if an external device does not function as expected:

- Turn on the device according to the manufacturer's instructions.
- Be sure that all device connections are secure.
- Be sure that the device is receiving electrical power.
- Be sure that the device, especially if it is older, is compatible with the operating system.
- Be sure that the correct drivers are installed and updated.

## The wireless network connection is not working

If a wireless network connection is not working as expected, follow these suggestions:

If you are connecting to a corporate network, contact the IT administrator.

- Click **Start**, click **Control Panel**, click **Network and Internet**, click **Network and Sharing Center**, click **Troubleshoot problems**, and then follow the on-screen instructions.
- Be sure that the wireless device is turned on and the wireless light on the computer is blue. If the light is amber, turn on the wireless device.
- Be sure that the computer wireless antennas are free from obstructions.
- Be sure that the cable or DSL modem and its power cord are properly connected and that the lights are on.
- Be sure that the wireless router or access point is properly connected to its power adapter and the cable or DSL modem, and that the lights are on.
- Disconnect and then reconnect all cables, and turn the power off and then back on.

For more information on wireless technology, refer to the information and the Web site links in Help and Support.

For information on activating broadband wireless service, refer to the mobile network operator information included with the computer.

# Appendix B: Specifications

## Operating environment

The operating environment information in the following table may be helpful if you plan to use or transport the computer in extreme environments.

| Factor | Metric | U.S. |
|---|---|---|
| **Temperature** | | |
| Operating (writing to optical disc) | 5°C to 35°C | 41°F to 95°F |
| Nonoperating | -20°C to 60°C | -4°F to 140°F |
| **Relative humidity** (noncondensing) | | |
| Operating | 10% to 90% | 10% to 90% |
| Nonoperating | 5% to 95% | 5% to 95% |
| **Maximum altitude** (unpressurized) | | |
| Operating | -15 m to 3,048 m | -50 ft to 10,000 ft |
| Nonoperating | -15 m to 12,192 m | -50 ft to 40,000 ft |

## Input power

The power information in this section may be helpful if you plan to travel internationally with the computer.

The computer operates on DC power, which can be supplied by an AC or a DC power source. Although the computer can be powered from a standalone DC power source, it should be powered only with an AC adapter or a DC power source supplied and approved by HP for use with this computer.

The computer is capable of accepting DC power within the following specifications.

| Input power | Rating |
|---|---|
| Operating voltage | 18.5 V dc or 19.0 V dc |
| Operating current | 3.5 A, 4.74 A, or 6.50 A |

This product is designed for IT power systems in Norway with phase-to-phase voltage not exceeding 240 V rms.

The computer operating voltage and current can be found on the system regulatory label on the bottom of the computer.

# Expansion port 3 input/output signals (select models only)

The signal information in this section may be helpful if you plan to use an optional expansion product that connects to the expansion port 3 on the computer. (The computer has only one expansion port. The term *expansion port 3* describes the type of expansion port.)

The following table identifies the input and output signals supported by the expansion port 3 on the computer.

| Feature | Support |
|---|---|
| USB 2.0 | Yes |
| Gigabit Ethernet | Yes |
| IEEE 1394 (4-pin port) | No |
| Consumer infrared (for optional remote control only) | Yes |
| Power inputs | 65-W to 90-W maximum |
| DVI | No |
| Headphone/speaker audio-out | Yes |
| Microphone audio-in | Yes |
| VGA | Yes |
| Power button | Yes |
| Volume control (up/down) | Yes |
| Mute/unmute status | Yes |

# Index


**A**

AC adapter 7
altitude specifications 41
antivirus software 5

**B**

blank screen, troubleshooting 37

**C**

cable, modem 9
cleaning the display 35
cleaning the keyboard 35
computer viruses 5
computer, turning on 37
configuring HDMI 22
connect to a wired network 13
connect to an existing wireless network 10
connecting to the Internet 9, 10
creating a CD or DVD 26
customer support, user guides 4

**D**

devices, external, troubleshooting 39
dial-up Internet access 9
display, cleaning 35
documentation 4

**E**

electric shock 6
environmental specifications 41
expansion port, specifications 42
external devices, troubleshooting 39

**F**

firewalls 5

**H**

HDMI, configuring 22
humidity specifications 41

**I**

identifying software 25
identifying TV tuner components 17
IEC 60950 compliance 6, 38
input power specifications 41
Internet
  choosing an ISP 9
  choosing type of access 9
  dial-up access 9
  wireless access 9
Internet Service Provider (ISP) 9
Internet Services & Offers 10

**K**

keyboard, cleaning 35

**M**

MediaSmart, using 25
modem
  connecting 9
  surge protection 6

**N**

Norton Internet Security 5

**O**

operating environment specifications 41
overheating, computer 38

**P**

posture 6
power cord 6
power specifications 41
power surges 6
power, turning on computer 37
privacy, protecting 5

**R**

recovery discs 29
recovery, system 29
regulatory information notices 4, 6, 7
*Regulatory, Safety and Environmental Notices* 4, 6
restore points 31

**S**

safe computing practices 6
*Safety & Comfort Guide* 6

setting up the TV tuner 15
shipping the computer 35
software
  antivirus 5
  identifying 25
  safeguarding information 29
  troubleshooting 38
  updating 27
specifications
  altitude 41
  expansion port 42
  humidity 41
  input power 41
  operating environment 41
  temperature 41
startup problems, troubleshooting 37
surge protection 6
system recovery 29
system restore points 31

## T

temperature
  safety considerations 6, 38
  specifications 41
  troubleshooting 38
TouchPad, cleaning 35
traveling with the computer 35, 41
troubleshooting 37
  blank screen 37
  display problems 37
  external device problems 39
  overheating problems 38
  resources 37
  software problems 38
  startup problems 37
  unresponsive computer 38
  virus problems 38
  wireless network problems 39
TV tuner
  components, identifying 17
  set up connection 17
  set up software 21
  setting up 15

## U

unresponsive computer, troubleshooting 38
user guides 4
using MediaSmart 25

## V

vents, precautions 6, 38
viruses 5

## W

Windows Connect to the Internet wizard 10
wired network connection 13
wireless Internet access 9
wireless network connection 10
wireless network problems, troubleshooting 39
work habits 6
workstation setup 6

# Contacting Customer Support

If the information provided in your User Guide or Learning Center does not address your questions, you can contact HP Customer Support at:

www.hp.com/go/contactHP

Here you can:

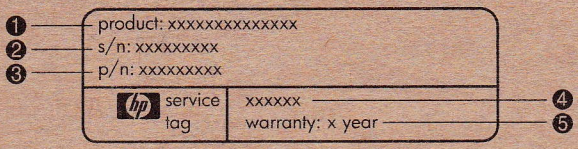
- Chat online with an HP technician.

  When technical support chat is not available in a particular language, it is available in English.

- E-mail HP Customer Support.
- Find HP Customer Support worldwide telephone numbers.
- Locate an HP service center.

# Service Tag Information

The service tag, located on the bottom of the computer, provides important information that you may need when contacting technical support.




| | |
|---|---|
| ❶ Product name | ❹ Model description |
| ❷ Serial number | ❺ Warranty period |
| ❸ Part/Product number | |

For more information about HP products and services, see the HP Web site at http://www.hp.com.

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